

Comments on the proposed conservation of *Hydrobia* Hartmann, 1821 (Mollusca, Gastropoda) and *Cyclostoma acutum* Draparnaud, 1805 (currently *Hydrobia acuta*) by the replacement of the lectotype of *H. acuta* with a neotype; proposed designation of *Turbo ventrosus* Montagu, 1803 as the type species of *Ventrosia* Radoman, 1977; and proposed emendation of spelling of HYDROBIINA Mulsant, 1844 (Insecta, Coleoptera) to HYDROBIUSINA, so removing the homonymy with HYDROBIIDAE Troschel, 1857 (Mollusca)

(Case 3087; see BZN 55: 139–145; 56: 56–63)

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The application by Prof F. Giusti, Dr Giuseppe Manganelli and Dr Marco Bodon, published in BZN 55: 139–145, raises a number of important issues involving nomenclatural procedures and practice that merit discussion beyond the immediate issue of nomenclature within the HYDROBIIDAE.

If the material of *Cyclostoma acutum* Draparnaud, 1805 at the Muséum National d'Histoire Naturelle in Paris is part of the type series then Boeters (1984) followed a correct nomenclatural procedure. There is no conflict with historical usage or understanding; only the limited literature since Mars (1966) and Radoman (1977) is affected. The overturning of this position should only be considered if there is overwhelming support among interested parties. The onus is on those wishing to set aside the Code to demonstrate that there is such support.

The (1998) publication by Giusti, Manganelli & Bodon in the *Journal of Conchology* has raised our concern. In our view the presentation and tenor of this paper goes beyond presenting the authors' case for setting aside the existing lectotype of *Hydrobia acuta* and designating a neotype to the extent of appearing to pre-empt the Commission's decision on the issue. In particular, the title appears as 'A proposed neotype for *Hydrobia acuta*', and a heading on p. 7 of the paper as 'A neotype for *Hydrobia acuta*'. On entering the literature such a title can only mislead and cause confusion.

With regard to the proposed designation of a neotype for *Hydrobia acuta*, we strongly object to the proposal by Giusti et al. in their application to establish a new specimen as the neotype, as opposed to designating an appropriate lectotype from among the available series of 74 paralectotypes. Unfortunately the authors do not explicitly justify their proposal, but the implication is that dry shell material is inadequate for typification of *Cyclostoma acutum*. Nevertheless, this is clearly not the case since Giusti et al. (1998) stated that the Paris paralectotype illustrated by Boeters (1984) 'can be clearly identified as *H. acuta* sensu Mars (1966) and sensu Radoman (1977) by virtue of its flat whorls and superficial sutures'. Evidently, designation of one of the remaining paralectotypes of *H. acuta* would adequately serve their nomenclatural intention in this case.

The vast majority of gastropod species are based on type material consisting of shells alone. Clearly, in order to facilitate identification it is desirable to associate critical anatomical features (and genetic information) with particular nominal species. However, in most cases this can be achieved unambiguously by reference to

shell morphology. It is unnecessary and irresponsible to erect a neotype simply because an anatomical character allows for more ready determination. Such an action should be reserved for those cases in which shell material is genuinely inadequate for unequivocal identification.

In general, the Commission should not accept the setting aside of a type series solely because a new character is thought to allow a more straightforward discrimination among similar species. Such a case could be made for a large number of gastropod taxa but this would encourage bad practice by obviating the need for critical evaluation of existing type specimens. Type series that can continue to fulfil the function of providing a stable basis for species nomenclature must not be set aside or nomenclatural stability will be compromised.

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Our application (published in BZN 55: 139–145) has gained the support of Dr D.F. Hoeksema and of Dr D. Kadolsky (comments published in BZN 56: 62–63), but our proposal to set aside the lectotype for *Hydrobia acuta* (Draparnaud, 1805) designated by Boeters (1984) and to replace it with a neotype in keeping with the past and current understanding of *H. acuta* and of *Hydrobia* Hartman, 1821 has been opposed by Dr H.D. Boeters and his co-authors (BZN 56: 57–62) and by Mr F. Naggs and his co-authors (their comment above). Boeters et al. and Naggs et al. proposed the retention of Boeter's lectotype of *H. acuta*, which (as Boeters et al. agree) is a specimen of *Hydrobia* (or *Ventrosia*) *ventrosa* Montagu, 1803 as understood by all authors. As noted in para. 8 of our application, this would result in the specific name *ventrosa* becoming a senior synonym of *acuta* and a new name being required for *acuta* as currently understood by almost all authors. Moreover, if the proposed designation of *ventrosa* as the type species of *Ventrosia* Radoman, 1977 is approved by the Commission, recognition of *ventrosa* as a senior synonym of *acuta*, as required by Boeters's (1984) action, would render the name *Hydrobia* a senior synonym of *Ventrosia* and a new name would be needed for the much-used *Hydrobia* of authors if the two taxa are placed in separate genera (see below). Boeters (1984) and Boeters et al. (para. B5 of their comment) suggested *Obrovia* Radoman, 1974 as an available name, but this was synonymised with *Hydrobia* by Radoman himself (1977) and, to our knowledge, has never been used. In any case, there are a number of synonyms, mostly unused, earlier than *Obrovia*.

Our application set out to forestall the serious confusion and disruption that would result from the switch of the name *Hydrobia* to the genus currently called *Ventrosia*, the loss of the name *acuta* as a synonym of *ventrosa*, and the need to replace with new names those of *acuta* and *Hydrobia* as understood by the majority of authors.

The comment by Boeters et al. contains a number of factual errors and misunderstandings on the status of the two species *Hydrobia acuta* and *H.* (or *Ventrosia*) *ventrosa*. These have arisen through the omission of key works in the previous literature and a distorted view of the concepts of some early French authors.

Bouchet, Boeters et al. and Kadolsky (see BZN 56: 57, 58 and 63 respectively), basing their remarks on Dollfus (1912), are convinced that two specimens in Paris are

syntypes of *Hydrobia acuta* (Draparnaud, 1805). Nevertheless, we feel the need to stress that these specimens appear to us to be rather different from the two syntypes photographed by Dollfus (1912, pl. 4, figs. 5–8). Comparison of Dollfus's figures with those of Boeters (1984, pl. 1a, figs. 1–2) and Giusti, Manganelli & Bodon (1998, figs. 1–2) has revealed that Dollfus's first specimen, as illustrated in his figs. 5 and 8, differs from the lectotype selected by Boeters (1984) by a less inflated and slightly convex last whorl, and also appears (Dollfus, fig. 5) to have a small breakage near the base of the external margin of the peristome. Comparison has also revealed that Dollfus's second specimen, as illustrated in figs. 6–7, was less acutely conical (i.e. more ovate) than the Paris paralectotype; the conical shape and poorly convex whorls suggest that both of Dollfus's figured specimens are *H. acuta* (see Giusti et al., 1998). The uncertainty of their status is why we (Giusti et al., 1998, p. 4) noted the specimens now in Paris as 'putative syntypes' and in our application (para. 6) recorded '... whether they were actually original specimens is impossible to determine'. However, the first specimen shows the initial whorls encrusted in a manner similar to that of the shell (in its original state; see Boeters, 1984, pl. 1a, fig. 1) selected as the lectotype by Boeters (1984), and there is a possibility that Dollfus's (1912) photographs were badly reproduced, giving rise to the artifacts noted above.

Boeters et al. (BZN 56: 57, para. 1) claim that 'despite the statement by Giusti, Manganelli & Bodon (1998, p. 7), Boeters (1984) clearly emphasized that the lectotype and the paralectotype of *Cyclostoma acutum* are not conspecific'. In our view this is not at all clear. Boeters (1984, p. 4, last four lines) noted that 'Das grössere der beiden Gehäuse zeigt deutlich tiefere Nähte als das kleinere Gehäuse; man kann damit das grössere Gehäuse der vorstehend von mir gekennzeichneten Species 1 und das kleinere Gehäuse der Species 2 zuordnen', but in the caption to pl. 1a, figs. 1–2 he, confusingly, assigned both the syntypes to *Hydrobia acuta* and designated the larger specimen as the lectotype.

Only after a direct study of Boeters's lectotype did we (para. 7 of our application) realise that the specimen had the upper part of the spire encrusted so as to give an incorrect idea of the convexity of the whorls and the depth of the sutures, and were we able to demonstrate unequivocally, after the encrustations had been carefully removed, that the specimen was really one of *H. ventrosa*.

It is not correct that 'at least until 1977 (Radoman's paper), *Cyclostoma acutum* Draparnaud, 1805 was understood in different ways but always related to *Turbo ventrosus* Montagu, 1803' (para. A3 of the comment by Boeters et al.). As we (Giusti et al., 1998) reported, Mars (1966), the first author to produce determinations taking into account both shell and body characters, anticipated Radoman in clearly distinguishing *H. acuta* (pp. 237–243, fig. 14A, 1; shell oval-oblong, with poorly convex whorls; animal with tentacles having a subterminal transverse black bar, etc.) from *H. ventrosa* (pp. 243–245; fig. 14C, 2; shell conical, with obviously convex whorls; animal with tentacles lacking subterminal transverse black bar, etc.). The subterminal transverse black bar on the tentacles is one of the diagnostic characters distinguishing *H. acuta* sensu Mars (1966) and Radoman (1977), and '*Hydrobia* sp.' of Boeters (1984), from *H. ventrosa* (see Paladilhe, 1874; Giusti & Pezzoli, 1984; Giusti, Manganelli & Schembri, 1995; Giusti et al., 1998). In relation to *H. acuta*, Mars (1966, p. 238) noted that (in translation) 'the figure provided by Draparnaud, even if imperfect, shows a shell with poorly convex whorls', i.e. the opposite of

Boeters's (1984) conclusion. Mars continued 'Dollfus figured some specimens of Draparnaud's collection which allow a complete definition. It is a very little shell (3.2×2 mm) with poorly convex whorls', demonstrating that his interpretation of *H. acuta* was in accord with that of earlier authors (because of the encrustations Mars accepted, as did Giusti & Pezzoli, 1984, that both syntypes figured by Dollfus, 1912 were *H. acuta*). Early in the century Dollfus (1912, pp. 248–252, fig. 1, pl. 4, figs. 5–8) had already reached a clear idea of the identity of *H. acuta* and considered it a species distinct from *H. ventrosa*, the latter (p. 250) 'with whorls even more convex'. It is noteworthy that this aspect of Dollfus's (1912) paper and Mars (1966) were not cited by Boeters (1984) and that Dollfus's concepts have been completely overturned in the comment by Boeters et al. Paladilhe (1870, p. 238), who was quoted by Mars (1966), also recognized *H. acuta* as having 'tours assez peu convexes'. Paladilhe (1870), Dollfus (1912), Germain (1931) and Mars (1966), all long before Radoman (1977), gave a list of characters (anatomical and conchological) sufficient to confirm the identify of the two distinct species *Cyclostoma acutum* Draparnaud, 1805 and *Turbo ventrosus* Montagu, 1803.

It is true that some early English authors (Forbes & Hanley, 1850, and Jeffreys, 1862, for example) considered *Cyclostoma acutum* Draparnaud to correspond to *Turbo ventrosus* Montagu, but there is no evidence that they derived their view from a study of the original material.

The British species studied and identified as *Paludestrina ventrosa* by Robson (1922), which was referred to by Boeters et al. in para. 4.2 of their comment, corresponds to *Turbo ventrosus* Montagu and to *Hydrobia* (or *Ventrosia*) *ventrosa* as understood by Dollfus (1912), Mars (1966), Radoman (1977), Giusti & Pezzoli (1984), Giusti, Manganelli & Schembri (1995) and Giusti et al. (1998).

The older literature contains many occasions on which both the species *Cyclostoma acutum* and *Turbo ventrosus* were moved from one genus to another (cf. para. A5 of the comment by Boeters et al.). It was Radoman (1977) who, having gained much experience of the anatomy of the HYDROBIIDAE, concluded that the differences between the two species were sufficient to place them in separate genera. His generic diagnoses remain the most clear and complete that have appeared so far. Radoman's taxonomic arrangement was not followed by Davis, McKee & Lopez (1989) and by Haase (1993), who considered *Ventrosia* Radoman, 1977 to be a junior synonym of *Hydrobia* Hartman, 1821 (see comments in Giusti, Manganelli & Schembri, 1995, p. 124). However, a recent genetic study by Thomas Wilke (personal communication, February 1999) supports the placement of the two species in separate genera.

No consequences arise from the point, made by Boeters et al. in para. B2 of their comment, that 'a penis having an 'intromittent portion ... long and pointed', as described by Robson (1922) for *Turbo ventrosus* Montagu, 1803, was considered to be characteristic not only for *Turbo ventrosus* but also of the genus *Hydrobia*, at least until 1977'. All the authors cited by Boeters et al. studied only *T. ventrosus* or *H. ulvae* (a species frequently included in the genus or subgenus *Peringia* Paladilhe, 1874), and no author had ever studied the genital anatomy of *Hydrobia acuta*, the type species of *Hydrobia*, until Radoman's (1977) paper. Since *H. ulvae* has a penis with a pointed tip it is not at all surprising that many authors believed the genus *Hydrobia* to be defined by this 'character'. In 1963, Muus published on the genital anatomy of *Hydrobia neglecta*, a nominal species recently recognized (see Hoeksema,

1998; Thomas Wilke, in preparation) as a junior synonym of *H. acuta*, and showed this to have a cylindrical penis with a fan-like apex.

It is unfortunate that Radoman (1977), having studied the anatomy of a number of hydrobiid taxa, did not fix the identity of *Hydrobia acuta* by designation of a lectotype, and even more unfortunate that Boeters (1984), in designating a lectotype, failed to consult all the available literature to gain an understanding of the nature of *H. acuta* and *V. ventrosa*. In no way has Boeters's (1984) lectotype designation 'not only stabilized the understanding of the identity of *Cyclostoma acutum* Draparnaud, 1805 but also that of *Hydrobia* Hartman, 1821', as claimed by Boeters et al. in para. B6 of their comment. On the contrary, recognition of the *H. acuta* lectotype designation very inappropriately made by Boeters (1984) would lead to confusion and instability in the understanding and nomenclature of these taxa, and also in *Ventrosia* and *V. ventrosa*. As we have pointed out above and in our application, it would result in the transfer of names (at both generic and specific levels) from one taxon to another, and the totally unnecessary requirement for new names. Our proposed replacement of Boeters's (1984) lectotype by a neotype from Draparnaud's putative type locality, recognisable both conchologically and anatomically, would confirm the past and current understanding of *H. acuta* and *V. ventrosa*, and of the genera *Hydrobia* and *Ventrosia*.

In reply to Naggs et al. (their comment above), we believe that the title 'A proposed neotype for *Hydrobia acuta* (Draparnaud, 1805)' of our (1998) publication, and the section heading (p. 7, 'A neotype for *Hydrobia acuta*'), are acceptable. The Abstract and text of the paper make very clear the circumstances of the proposed neotype, cite our application to the Commission, note that setting aside Boeters's (1984) lectotype designation and designation of a neotype in line with the earlier and more widely accepted usage of the name are proposed in our application, and that both actions require Commission approval. The third paragraph under the section heading (p. 7) begins 'The proposed neotype ...'.

In relation to our choice of specimen as the proposed name-bearing type of *Hydrobia acuta* (cf. the comment above by Naggs et al.), we note that Recommendation 75A of the Code states that 'a neotype for a nominal species-group taxon should be chosen from any surviving paratypes or paralectotypes, unless there are compelling reasons to the contrary ... Topotypic specimens from the type series should be given special preference'. In this case there are, indeed, 'compelling reasons' for not selecting one of the paralectotypes in Vienna or Paris, which lack all anatomical information, as the neotype. In our application (para. 4) we wrote that 'the status of *Hydrobia acuta* has remained controversial because of the impossibility of correct determination in the absence of anatomical information' and (para. 9) 'since this hydrobiid species is most easily identified by male anatomical characters, a male specimen has been selected as the neotype'. We have also noted above that 'the subterminal transverse black bar on the tentacles is one of the diagnostic characteristics distinguishing *H. acuta* sensu Mars (1966) and Radoman (1977)'. The two species *H. acuta* and *Ventrosia ventrosa* often have very similar shells and their differentiation is frequently possible only after anatomical studies (see Giusti & Pezzoli, 1984). The fact that in the case of the shells of the lectotype selected by Boeters (1984) and the Paris paralectotype recognition as distinct species has been possible is exceptional and not the rule. The male neotype proposed for *H. acuta*,

which has the shell and the anterior part of the body with penis, will provide much-needed anatomical information and unequivocally link this with the name, bringing stability to the identity and nomenclature of the taxon. The specimen is from the putative type locality of Étang du Prévost, near Palavas-les-Flots, Hérault, France.

Additional references

- Mars, P. 1966. Recherches sur quelques étangs du littoral méditerranéen français et sur leur faunes malacologiques. *Vie Milieu Suppl.*, 20: 1–359.
- Paladilhe, A. 1870. Étude monographique sur les Paludiniées françaises. *Annales de Malacologie*, 1: 167–243.
- Paladilhe, A. 1874. Monographie de nouveau genre *Peringia*, suivie des descriptions d'espèces nouvelles de Paludiniées françaises. *Annales des Sciences Naturelles*, (6, Zoologie et Paléontologie), 1: 1–38.

Comments on the proposed precedence of the specific name of *Crotalus ruber* Cope, 1892 over that of *Crotalus exsul* Garman, 1884 (Reptilia, Serpentes)

(Case 3005; see BZN 55: 229–232)

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I write to support the application by Prof Hobart M. Smith and his co-authors to conserve the name *Crotalus ruber* Cope, 1892 by giving it precedence over *C. exsul* Garman, 1884 when the two taxa are considered to be conspecific. In my 1992 paper I may have inadvertently suggested the opposite (para. 3 of the application), but I believe that the proposal of Smith et al. is far better for the maintenance of nomenclatural stability in herpetology.

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It is my view that the authors of the application should be supported in their proposal. The name *Crotalus ruber* has not only been used for a lengthy time but, since it refers to a venomous snake, it is involved in many medical and preventative materials. The removal of the name, and replacement with *C. exsul*, when the two taxa are treated as conspecific would bring about undue confusion, especially in non-herpetological circles.

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I request that the Commission consider favorably the proposal to give the species name *Crotalus ruber* Cope precedence over *C. exsul* Garman if the two taxa are considered to be conspecific. Loss of the name *C. ruber* would not aid in a better understanding of *Crotalus* systematics, and would also result in a considerable curatorial problem throughout museum collections.